

What is claimed is:

1. A godet roll for guiding, heating and conveying yarn, the godet roll comprising a projecting support, a drivable hollow-cylindrical godet roll casing forming a circumferential yarn guiding surface, at least one radially acting bearing rotatably seating the godet roll casing on the projecting support in at least one bearing plane, the radially acting bearing comprising a plurality of bearing pole windings, and a heating device comprising a plurality of heating pole windings on the support, the bearing pole windings and the heating pole windings being arranged within an annular chamber between the support and the godet roll casing, at least one of the heating pole windings being arranged in the bearing plane between the bearing pole windings of the bearing plane.

2. The godet roll in accordance with claim 1, characterized in that the bearing pole windings of the magnetic bearings are arranged in at least three bearing planes, and at least some of the heating pole windings are arranged in the bearing planes between the bearing pole windings.

3. The godet roll in accordance with claim 1, characterized in that one or both of the heating pole windings and the bearing pole windings are arranged on the support at angular offsets from bearing plane to bearing plane.

4. The godet roll in accordance with claim 3, characterized in that one or both of the heating pole windings and the bearing pole windings are in a spiral-shaped arrangement in the longitudinal direction of the support.

5. The godet roll in accordance with claim 1, characterized in that one or both of the heating pole windings and the bearing pole windings are arranged in overlapping relation in the circumferential direction of the support.

6. The godet roll in accordance with claim 1, characterized in that a plurality of sensors are provided outside the annular chamber for determining the position of the godet roll casing and are connected with a control device for controlling the bearing pole windings.

7. A godet roll for guiding, heating and conveying yarn, the godet roll comprising a projecting support, a drivable hollow-cylindrical godet roll casing forming a circumferential yarn guiding surface, at least one radially acting bearing rotatably seating the godet roll casing on the projecting support in at least one bearing plane, the radially acting bearing comprising a plurality of bearing pole windings, a heating device comprising a plurality of heating pole windings on the support, the bearing pole windings and the heating pole windings being arranged within an annular chamber between the support and the godet roll casing, a plurality of sensors provided outside

the annular chamber for determining the position of the godet roll casing, and a control device connected with the sensors for controlling the bearing pole windings.

8. The godet roll in accordance with claim 6 or 7, characterized in that the sensors are arranged in the area of the bearing planes, air gaps are formed outside of the annular chamber in the area of the bearing planes between the godet roll casing and the support, the air gaps extending essentially parallel in relation to a bearing gap formed between the godet roll casing and pole ends of the bearing pole windings, and the sensors are designed as distance sensors for monitoring the air gaps.

9. The godet roll in accordance with claim 8, characterized in that one of the air gaps is formed at a free end of the support inside the godet roll casing between a hub connected with the godet roll casing and the support.

10. The godet roll in accordance with claim 8, characterized in that one of the air gaps is formed at a mounted end of the support outside of the godet roll casing between the godet roll casing and a collar connected with the support.

11. The godet roll in accordance with claim 6 or 7, characterized in that one of the sensors is assigned to each one of the bearing pole windings, and the bearing pole windings are each individually controllable by means of the control device.

12. The godet roll in accordance with claim 11, characterized in that the bearing pole windings are controllable in pairs by the control device.

13. The godet roll in accordance with claim 1 or 7, characterized in that the godet roll casing is seated by means of an additional axial bearing, the axial bearing comprising an axially acting magnetic bearing.

14. The godet roll in accordance with claim 1 or 7, characterized in that at least one catch bearing is provided, the catch bearing comprising a contactless radial bearing or as a resiliently clamped radial bearing.